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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,434	09/16/2005	Masahiro Nakanishi	0033-0987PUS1	5775

2292 7590 10/07/2008  
BIRCH STEWART KOLASCH & BIRCH  
PO BOX 747  
FALLS CHURCH, VA 22040-0747

EXAMINER
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MURDOCH, CRYSTAL A

ART UNIT	PAPER NUMBER
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2628

NOTIFICATION DATE	DELIVERY MODE
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10/07/2008

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

### Office Action Summary

**Application No.**

10/525,434

**Applicant(s)**

NAKANISHI, MASAHIRO

**Examiner**

CRYSTAL MURDOCH

**Art Unit**

2628

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-859)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_
- Paper No(s)/Mail Date 2/24/2005, 4/25/2008, 6/2/2008

## **DETAILED ACTION**

### **I. Information Disclosure Statement**

The information disclosure statements (IDS) submitted on 24 February 2005, 25 April 2008, and 2 June 2008 are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements have been considered by the Examiner.

### **II. Drawings**

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the reproduction time units arranged along the time series of the time for reproduction, the priority ordering of the reproduction modes and objects, the portion that is not appropriately reproduced in said contents reproduction part surrounded by the preceding and succeeding portions, must be shown or the features canceled from the claims. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing

figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### **III. Specification**

#### **A. Abstract**

The abstract of the disclosure is objected to because the sentences are fragmented, causing the abstract to be confusing. Examiner recommends replacing the current abstract with a modified version of the paragraph of page 3 of the disclosure, lines 14-23 (note that line 22 contains the word "said," which is objectionable when present in the abstract). Correction is required. See MPEP § 608.01(b).

**B. Disclosure**

The disclosure is objected to because the lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification. Appropriate correction is required.

**IV. Claim Objections**

Claim 14 is objected to because of the misspelling of the word "preceding" on line 5. Appropriate correction is required.

**V. Claim Rejections - 35 USC § 112**

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-41 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

**A. Lacking Antecedent Basis**

Claim 1 recites the limitation "said conditions" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the switching" in line 8. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites the limitation “the time of reproduction” in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitation “the switching” in line 9. There is insufficient antecedent basis for this limitation in the claim.

Claim 5 recites the limitation “the reproduction time of said contents” in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitation “the respective reproduction time units which are arranged along the time series of the time for reproduction” in lines 5-6. There is insufficient antecedent basis for these limitations in the claim.

Claim 7 recites the limitation “said data group” in line 4. Since claim 6, from which claim 7 depends, recites “a plurality of data groups,” and therefore this claim lacks sufficient antecedent basis for a singular data group.

Claim 8 recites the limitation “the order of priority of reproduction modes” in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim 9 recites the limitation “the order of priority of objects” in lines 2-3. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitation “the preceding portion” in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 also recites “the portion that is not appropriately reproduced” in line 4 and “said portion that is not appropriately reproduced” in line 5. There is insufficient antecedent basis for these limitations in the claim.

Claim 15 recites “the portion that is not appropriately reproduced” in lines 3-4 and “said portion that is not appropriately reproduced” in line 5. There is insufficient antecedent basis for these limitations in the claim.

Claim 16 recites the limitation “the time of reproduction” in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claims 18 and 30 recite the limitation “the reproduction mode” in lines 1-2 of claim 18 and line 2 of claim 30. There is insufficient antecedent basis for this limitation in these claims.

Claims 19 and 31 recite the limitation “each reproduction apparatus” in lines 2-3. Since claims 18 and 30 from which claims 19 and 31 depend are method claims that do not recite nor require one or more

apparatuses, there is insufficient antecedent basis for this limitation in these claims.

Claims 20 and 32 recite the limitation “each reproduction apparatuses” in lines 3-4. Since claims 18 and 30 from which claims 20 and 32 depend are method claims that do not recite nor require a plurality of apparatuses, there is insufficient antecedent basis for this limitation in these claims.

Claims 20 and 32 recite the limitation “the range” in line 7 of claim 20 and line 8 of claim 32. There is insufficient antecedent basis for this limitation in these claims.

Claims 21 and 33 recite the limitation “the depth of said object” in lines 4-5. There is insufficient antecedent basis for this limitation in these claims.

Claim 24 recites the limitation “the respective reproduction time units” in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claims 25 and 37 recite the limitation “the order of priority of reproduction modes” in line 3. There is insufficient antecedent basis for this limitation in these claims.



Claims 26 and 38 recite the limitation “the order of priority of objects” in line 3. There is insufficient antecedent basis for this limitation in these claims.

Claims 29 and 41 recite the limitation “the reproduction mode” in line 2 of claim 29 and line 3 of claim 41. There is insufficient antecedent basis for this limitation in these claims.

#### B. Indefinite

Claims 14 and 15 are rejected for being unclear and indefinite.

Claim 14 requires, “... switching between said reproduction modes in order to reproduce, in said contents reproduction part, a succeeding portion of said contents next to the portion that is not appropriately reproduced in said contents reproduction part during reproduction of the preceding portion prior to said portion that is not appropriately reproduced in said contents reproduction part when in said contents reproduction part, *said contents cannot be appropriately reproduced in the reproduction mode that has been switched by said control part* (emphasis added).” The claim is indefinite because it does not clearly indicate which portion of “said contents” cannot be appropriately reproduced in the reproduction mode that has been switched by said

control part, seeming to suggest that *none* of said contents can be appropriately reproduced.

Claim 15 is similarly indefinite because it seems as though all of said contents cannot be appropriately reproduced in the reproduction mode that has been switched by said control part.

Claims 14 and 15 will be interpreted as switching the reproduction mode from a first mode required to render a preceding portion of said contents to a second mode required to render a succeeding portion of said contents, wherein said first mode cannot appropriately reproduce the succeeding portion of said contents, and said second mode cannot appropriately reproduce the preceding portion of said contents.

## **VI. Claim Rejections - 35 USC § 101**

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

A. Claims 18-41 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 18-29 do not fall within one of the four statutory categories of invention. Though the claims recite a series of steps or acts to be performed, a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2)

transform underlying subject matter (such as an article or material) to a different state or thing (Reference the May 15, 2008 memorandum issued by Deputy Commissioner for Patent Examining Policy, John J. Love, titled "Clarification of 'Processes' under 35 U.S.C. 101"). The instant claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

Claims 30-41 lack the necessary physical articles or objects to constitute a machine or manufacture within the meaning of 35 USC §101. They are clearly not a series of steps or acts to be a process nor are they a combination of chemical compounds to be a composition of matter. Absent the necessary physical articles or objects to allow the computer program to impart functionality to a computer system, the claims are considered functional descriptive material, *per se*, and are therefore non-statutory. Claiming functional descriptive material stored on a computer-readable medium may be sufficient to overcome this rejection so long as the claims are still tied to another statutory category (such as a computer).

Examiner notes that the various "parts" required by independent claims 1 and 4 are interpreted to be physical components as disclosed by the

specification in reference to Fig. 1 (See Specification: Page 7, Line 18 - Page 8, Line 11), thereby rendering claims 1-17 statutory.

## **VII. Claim Rejections - 35 USC § 102**

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

A. Claims 1-8, 12-20, 22-25, 29-32, 34-37, and 41 are rejected under 35 U.S.C. 102(b) as being anticipated by Shimada (US Patent Number 5,640,171).

Regarding independent claim 1, Shimada teaches a contents reproduction apparatus comprising:

- A contents reproduction part which can reproduce contents in a plurality of reproduction modes including three-dimensional display (See Shimada: Col. 1, Lns. 51-56, “According to the present invention, there is provided an image display device having liquid crystal panels separately in right and left sides of a viewer, and capable of performing a common video signal display (2D display) and a stereoscopic display in field sequentially...”);
- A recognition part which recognizes attributes of an object included in contents (See Shimada: Col. 6, Lns. 18-21, “... detecting an identifying

signal for stereoscopic display (3D) or standard display (2D) recorded on the image software.”)

- A determination part which determines the reproduction mode of the contents on the basis of conditions for contents to be reproduced and the attributes of the object that have been recognized in said recognition part (See Shimada: Col. 6, Lns. 15-21, “In the above embodiment, moreover, the standard display mode and the field sequential stereoscopic display mode are switched by operating switches or the like in the display mode switching circuit 4, but it may be preferable to output the display mode signals automatically by detecting an identifying signal for stereoscopic display (3D) or standard display (2D) recorded on the image software.”); and
- A control part which switches between the reproduction modes based on said determined reproduction mode (See Shimada: Fig. 1, Item 4; Col. 4, Lns. 15-27, “While in the display mode switching circuit 4, switches (not shown) or the like are operated and the necessary display mode is selected from the standard display mode (2D) and the field sequential stereoscopic display mode (3D), so that the display mode signal (2D or 3D) being, for example, a high level signal in the case of 2D, and a low level signal in the case of 3D, is supplied to the adjusting value switching circuit 3 and the stereoscopic display controller 5.”), wherein said contents reproduction part reproduces

said contents in said reproduction mode that has been switched by said control part (See Shimada: Col. 4, Lns. 46-54, "In this case, the stereoscopic display controller, to which the display mode signal 2D is supplied, generates a control signal, by which LCDs 6R, 6L are made always writing mode (W), so that LCD drive circuits 6R, 6L generate image signal after image signal processing to LCDs 7R, 7L, as it is. LCDs 7R, 7L display the image signal subjected to the image signal processing suitable for standard display in both odd field and even field.").

Independent claim 4 is similar in scope to independent claim 1. Claim 4 requires an acquisition part which acquires information concerning the reproduction mode of said contents, rather than a recognition part which recognizes attributes of an object included in contents. However, these limitations are considered to be functionally equivalent, so the teachings of Shimada as applied to claim 1 are applied to claim 4.

Regarding independent claims 18 and 30, Shimada teaches contents identification method and program product for allowing a computer to execute a contents identification method for identifying the reproduction mode of contents that include an object, comprising:

- A recognition/identification step of recognizing/identifying attributes of said object (See Shimada: Col. 6, Lns. 19-21, "... detecting an

identifying signal for stereoscopic display (3D) or standard display (2D) recorded on the image software.”); and

- A determination step of determining said reproduction mode of contents to be reproduced on the basis of a condition for said contents and the recognition of said recognition step (See Shimada: Col. 6, Lns. 15-21, “In the above embodiment, moreover, the standard display mode and the field sequential stereoscopic display mode are switched by operating switches or the like in the display mode switching circuit 4, but it may be preferable to output the display mode signals automatically by detecting an identifying signal for stereoscopic display (3D) or standard display (2D) recorded on the image software.”).

Regarding independent claims 29 and 41, Shimada teaches a contents reproduction method and program product for allowing a computer to execute a contents reproduction method for reproducing contents to which information concerning the reproduction mode has been added, comprising:

- A switching step of switching the reproduction mode of a reproduction apparatus (See Shimada: Col. 1, Lns. 58-59, “... a display mode switching means for switching the above two display modes...” ) for reproducing said contents on the basis of said information concerning

said reproduction mode that has been added to said contents (See Shimada: Col. 1, Lns. 51-56, "According to the present invention, there is provided an image display device having liquid crystal panels separately in right and left sides of a viewer, and capable of performing a common video signal display (2D display) and a stereoscopic display in field sequentially, the device comprising:..."); and

- A reproduction step of reproducing said contents in said switched reproduction mode (See Shimada: Cols. 1-2, Lns. 64-2, respectively, "... an image signal processing means for processing image signals for various image qualities for the image signal in accordance with the adjusted value from the display mode switching means, thereby displaying the image display signal subjected to the image signal processing suitable for respective display systems.").

Regarding claims 2 and 16, as they depend from claims 1 and 4, respectively, Shimada teaches said control part controls the switching between said plurality of reproduction modes in the case where a predetermined condition is satisfied at the time of reproduction of said contents (See Shimada: Fig. 3; Col. 4, Lns. 30-35, "At first, in case of selecting the standard display mode, the adjusting value switching circuit 3 switches the switch circuit 22 as shown by solid line in FIG. 3



in accordance with the inputted display mode signal 2D, so that the voltage V1 corresponding to the standard mode is applied to the image signal processing circuit 2 as an adjusting value V3.” Shimada also teaches the case of selecting the stereoscopic mode in column 4, lines 55-66, “Then, in case of selecting the field sequential stereoscopic display mode, the adjusting value switching circuit 3 switches the switch circuit 22 as shown by dotted line in FIG. 3 in accordance with the inputted display mode signal 3D, so that the voltage V2 corresponding to the field sequential stereoscopic display mode is applied to the image signal processing circuit 2 as an adjusting value V3.”).

Regarding claims 3 and 17, as they depend from claims 2 and 16, respectively, Shimada teaches said predetermined condition includes a condition concerning said contents reproduction apparatus for reproducing said contents (See Shimada: Fig. 3; Col. 4, Lns. 30-35 and Lns. 55-66, wherein the predetermined condition is the current state of switch circuit 22.).

Regarding claim 5, as it depends from claim 4, Shimada teaches:

- Determining the reproduction mode in accordance with the reproduction time of said contents (See Shimada: Col. 2, Lns. 36-41, “In the present invention, when a stereoscopic image is displayed on image display elements provided separately in right and left sides of a

viewer with a field sequential stereoscopic display mode, a display mode switching means switches the above display mode from the standard display mode to the field sequential stereoscopic display mode..." and Col. 6, Lns. 57-62, "When a plane image is displayed in image display element, provided separately in right and left sides of a viewer with a standard display mode, the display mode switching means switches the above display mode from the field sequential stereoscopic display mode to the standard display mode..." Therefore, the reproduction time corresponds to a time when a stereoscopic or standard image is to be displayed on the display, thus causing the display mode to switch accordingly.), and

- Switching between the reproduction modes during reproduction of the contents for each reproduction time unit on the basis of the determined reproduction mode (See Shimada: Col. 2, Lns. 36-41 and Lns. 57-62 above, wherein a reproduction time unit is the amount of time one display mode is used to display appropriate images.).

Regarding claim 6, the rationale of claim 5 is incorporated herein. Claim 6 differs from claim 5 only in that claim 6 additionally requires a plurality of data groups for the respective reproduction time units arranged along a time series of the time for reproduction. In view of the rationale provided in claim 5, the plurality of data groups are interpreted

to comprise the stereoscopic image and the plane image, each image equating to a data group. The respective reproduction time units correspond to the amount of time one display mode is used to display appropriate images, and therefore these units are arranged along a time series of the time for reproduction whenever more than one display mode is used, such as switching the display mode from the standard display mode to the field sequential stereoscopic display and the display mode switching means switches the display mode from the field sequential stereoscopic display mode to the standard display mode (See Shimada: Col. 2, Lns. 36-62).

Regarding claim 7, as it depends from claim 6, Shimada teaches:

- A recognition part which recognizes said attributes of said objects (See Shimada: Col. 6, Lns. 19-21, "... detecting an identifying signal for stereoscopic display (3D) or standard display (2D) recorded on the image software."),
- Determining said reproduction mode of each data group on the basis of said recognized attributes of the objects included in said data group (See Shimada: Col. 6, Lns. 15-21, "In the above embodiment, moreover, the standard display mode and the field sequential stereoscopic display mode are switched by operating switches or the like in the display mode switching circuit 4, but it may be preferable

to output the display mode signals automatically by detecting an identifying signal for stereoscopic display (3D) or standard display (2D) recorded on the image software.”).

Regarding claims 8, 25, and 37, as they depend from claims 7, 24, and 36, respectively, Shimada teaches determining one reproduction mode on the basis of object attributes included in said data groups (See Shimada: Col. 2, Lns. 36-41, “In the present invention, when a stereoscopic image is displayed on image display elements provided separately in right and left sides of a viewer with a field sequential stereoscopic display mode, a display mode switching means switches the above display mode from the standard display mode to the field sequential stereoscopic display mode...” and Col. 6, Lns. 57-62, “When a plane image is displayed in image display element, provided separately in right and left sides of a viewer with a standard display mode, the display mode switching means switches the above display mode from the field sequential stereoscopic display mode to the standard display mode...” Therefore, reproduction mode appropriate for the input image is determined based on the type (attribute) of the image.).

Though Shimada does not explicitly disclose assigning an order of priority of reproduction modes that have been preset when the reproduction mode is determined, Shimada implies a priority scheme in

which the stereoscopic display mode will be selected when the image to be displayed is a 3D image, and conversely will select a standard display mode when the image to be displayed is a 2D image. The priority is apparent by the selection of an appropriate reproduction mode for the input image. In other words, since the input of a 3D image determines the reproduction mode and the stereoscopic display mode is selected when the input image is a 3D image, it follows that the stereoscopic display mode has a higher priority when the input image is a 3D image. Similarly, when the input image is a 2D image requiring standard display, the standard display mode is selected, suggesting it possesses a higher priority when the input image is 2D.

Regarding claim 12, as it depends from claim 4, Shimada teaches said acquisition part acquires said information concerning the reproduction mode of said contents from said contents (See Shimada: Col. 6, Lns. 15-21, "In the above embodiment, moreover, the standard display mode and the field sequential stereoscopic display mode are switched by operating switches or the like in the display mode switching circuit 4, but it may be preferable to output the display mode signals automatically by detecting an identifying signal for stereoscopic display (3D) or standard display (2D) recorded on the image software.").

Regarding claim 13, as it depends from claim 4, Shimada teaches said acquisition part acquires said information concerning the reproduction mode of said contents from an external apparatus (See Shimada: Col. 6, Lns. 15-18, "In the above embodiment, moreover, the standard display mode and the field sequential stereoscopic display mode are switched by operating switches or the like in the display mode switching circuit 4...").

Regarding claims 14 and 15, as they depend from claim 4, Shimada teaches:

- Switching the reproduction mode from a first mode required to render a preceding portion of said contents to a second mode required to render a succeeding portion of said contents (See Shimada: Col. 1, Lns. 58-59, "... a display mode switching means for switching the above two display modes [2D display and stereoscopic display in field sequentially]..."),
  - Wherein said first mode cannot appropriately reproduce the succeeding portion of said contents, and said second mode cannot appropriately reproduce the preceding portion of said contents (See Shimada: Col. 2, Lns. 24-29, "The field number per one second is different between the case of performing the field sequential stereoscopic display with the memorizing effect and the case of performing the standard display (2D display), so that the image

quality becomes different in case of performing the image display with the same conditions.”).

Regarding claims 19 and 31, as they depend from claims 18 and 30, respectively, Shimada teaches storing said condition for reproducing said contents in each reproduction apparatus for reproducing said contents (See Shimada: Col. 7, Lns. 19-25, “In the third embodiment, when the display mode signal (3D/2D) is supplied to the micro-computer 33 from the display mode switching circuit 4, the micro-computer 33 writes in the EEPROM 34 data corresponding to either one of the standard display mode and the field sequential stereoscopic display mode (for example, digital signal of few bits) for respective adjusting items.”).

Regarding claims 20 and 32, as they depend from claims 18 and 30, respectively, Shimada teaches:

- Storing said condition for reproducing said contents in each of the reproduction apparatuses for reproducing said contents in accordance with the ability of said reproduction apparatuses (See Shimada: Col. 7, Lns. 19-25, “In the third embodiment, when the display mode signal (3D/2D) is supplied to the micro-computer 33 from the display mode switching circuit 4, the micro-computer 33 writes in the EEPROM 34 data corresponding to either one of the standard display mode and the field sequential stereoscopic display

mode (for example, digital signal of few bits) for respective adjusting items.”), and

- Determining the reproduction mode by giving priority to the use of recognition concerning a specific type of object within the range of said condition (See Shimada: Col. 2, Lns. 36-41, “...a display mode switching means switches the above display mode from the standard display mode to the field sequential stereoscopic display mode [when a stereoscopic image is displayed on image display elements]...” and Col. 6, Lns. 57-62, “When a plane image is displayed in image display element, provided separately in right and left sides of a viewer with a standard display mode, the display mode switching means switches the above display mode from the field sequential stereoscopic display mode to the standard display mode...” Thus the reproduction priority is given to the next image type being displayed.).

Regarding claims 22 and 34, as they depend from claims 18 and 30, respectively, Shimada teaches:

- Registering information indicating said reproduction mode of said contents by adding to the data of said contents (See Shimada: Col. 6, Lns. 19-21, “...detecting an identifying signal for stereoscopic display (3D) or standard display (2D) recorded on the image software.”).



Regarding claims 23 and 35, as they depend from claims 22 and 34, respectively, Shimada teaches notifying said reproduction mode of said contents registered (See Shimada: Col. 6, Lns. 15-21, wherein detected identifying signal is the notification).

Regarding claims 24 and 36, as they depend from claims 18 and 30, respectively, Shimada teaches:

- Including said object in each of a plurality of data groups, said data groups form said contents (See Shimada: Col. 2, Lns. 36-41, "... a stereoscopic image is displayed on image display elements..." and Col. 6, Lns. 57-62, "When a plane image is displayed in image display element..." The plurality of data groups is interpreted to comprise the stereoscopic image and the plane image. The contents of the respective images correspond to the object included in each data group. It also follows that since "said contents" is what is being displayed, the contents comprises the data groups, which comprise objects.) arranged in the respective reproduction time units along the time series of the time for reproduction (See Shimada: Col. 2, Lns. 36-62, wherein the respective reproduction time units correspond to the amount of time one display mode is used to display appropriate images, and therefore these units are arranged along a time series of the time for reproduction whenever more than one display mode is

used, such as switching the display mode from the standard display mode to the field sequential stereoscopic display and the display mode switching means switches the display mode from the field sequential stereoscopic display mode to the standard display mode), and

- Determine said reproduction mode for each of said data groups that form said contents (See Shimada: Col. 2, Lns. 36-41, “In the present invention, when a stereoscopic image is displayed on image display elements provided separately in right and left sides of a viewer with a field sequential stereoscopic display mode, a display mode switching means switches the above display mode from the standard display mode to the field sequential stereoscopic display mode...” and Col. 6, Lns. 57-62, “When a plane image is displayed in image display element, provided separately in right and left sides of a viewer with a standard display mode, the display mode switching means switches the above display mode from the field sequential stereoscopic display mode to the standard display mode...” Therefore, the reproduction time corresponds to a time when a stereoscopic or standard image is to be displayed on the display, thus causing the display mode to switch accordingly.).

#### **VIII. Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

A. Claims 9-11, 21, 26-28, 33, and 38-40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada in view of Jones et al. (US Patent Number 6,798,406, herein referred to as Jones.).

Claims 9, 26, and 38 differ from claims 8, 25, and 37 only in that the reproduction mode of claims 9, 26, and 38 is determined based on the order of priority of objects, rather than the order of priority of reproduction modes, as required by claims 8, 25, and 37. Though Shimada teaches using a stereoscopic display, Shimada does not teach

the specifics of such a display, and therefore does not expressly suggest using an order of priority of objects to determine the reproduction mode. Jones is cited for teaching a stereoscopic display method which uses the depth of the objects to be displayed to determine their implied priority which determines the reproduction mode of the object. Jones teaches, "... the distance  $[Z']$  to the Zero Disparity Plane (ZDP) (also known as a 'virtual display', having width  $W$ ', see FIG. 6) may be calculated. This is the distance from the camera to objects which will appear to be in the plane of the display once the photograph has been taken. Anything closer to the camera than  $Z'$  (object depth  $< Z'$ ) will appear to be between the display and the viewer. Anything further than  $Z'$  (object depth  $> Z'$ ) from the camera will appear behind the display (See Jones: Fig. 3; Col. 6, Lns. 58-65)." In other words, objects with a depth value less than  $Z'$  will be closer to the viewer and therefore have a higher priority than objects with a depth value  $\geq Z'$ . If a scene or image has at least one object with a depth  $\neq Z'$ , then the image would be reproduced in 3D stereoscopic display mode. Similarly, if all of the objects in the image have a depth  $= Z'$ , then all of the objects exist on the Zero Disparity Plane or virtual display, meaning that the image is two dimensional and would be displayed as such.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have prioritized the depths of objects within an image to determine how the images of the objects would be displayed on a stereoscopic display, as taught by Jones, with the stereoscopic/standard display modes as taught by Shimada because depth is the feature that distinguishes 2D images from 3D images, and stereoscopic images cannot be properly reproduced without the use of object priority that determines occlusions of objects.

Regarding claims 10, 27, and 39, the rationale of claims 9, 26, and 38 is incorporated herein. As previously stated, the objects closer to the viewpoint have a higher priority, and if all objects exist on the Zero Disparity Plane, then the image is displayed in 2D.

Regarding claims 11, 28, and 40, the rationale of claims 9, 26, and 38 is incorporated herein. The combination of Shimada and Jones does not expressly suggest that the order of priority of said objects is based on the order along the time series of the time for reproduction of said objects. Examiner notes that it is well known in the art of 3D graphics to reposition objects within a three-dimensional space over time, which can be observed in 3D animated movies or 3D video games. This can result in a new depth order of the objects within a scene. Thus, as the positions of the objects change over time, objects that once had a lower priority based

on their depth may obtain a higher priority. It would have been obvious to one of ordinary skill in the art at the time of the invention to assign an order of priority to objects in 3D that will change over time with the stereoscopic/standard display of Shimada, as modified by Jones, because maintaining the same priority as the depths of objects changes results incorrect occlusion relationships and destroys the perception of depth for the viewer.

Regarding claims 21 and 33, the rationale of claims 9, 26, and 38 is incorporated herein. To reiterate, an object that exists entirely on the Zero Disparity Plane (object depth =  $Z$ ) is two-dimensional and displayed appropriately. If the object has any other depth information (object depth  $< Z'$  or  $Z' < \text{object depth}$ ), then the object is three-dimensional and is displayed appropriately. Thus, an object is displayed three-dimensionally in accordance with an indication of depth information for the object.

## **IX. Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CRYSTAL MURDOCH whose telephone number is (571)270-1043. The examiner can normally be reached on Mon. - Fri. 10:00 am to 6:30 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on 5712727782. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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